

- Water Quality data for Wells and Treated water from Lake Thunderbird
- Water Quality Data for Oklahoma City Water
- City of Norman Web Site WWW.NORMANOK.GOV

Norman Customers:

The Norman Utilities Authority (NUA) is committed to providing you, our customers, safe, high quality water. This report, the Consumer Confidence Report (CCR), provides information on our sources of water, water quality test results and additional materials to give you confidence in the safety of Norman's drinking water.

Your drinking water meets or exceeds all state and federal standards for safety and water quality. In addition, we stay up to date on any new guidelines for drinking water as well as proactively monitoring for taste and odor in drinking water and evaluating new treatment techniques to improve water quality.

You will find information below about recent accomplishments as well as current projects. We, the City of Norman and you, our customers, continue to be recognized as leaders in environmental stewardship for water, wastewater, sanitation, recycling, composting and water reuse. Thank you for reading this brochure and being part of the community conversation about protecting our natural resources and planning for the future.

Water Treatment Plant Phase II Improvements

Improvements to the Norman Water Treatment Plant valued at \$33 million will meet the new regulatory requirements, improve water quality, improve chemical safety and update equipment. Construction will begin by early summer 2017 and continue for about two years.

New Water Storage Tower

This past year we christened our newest elevated water storage tower. The new tower is along Robinson Street between 24th and 36th Avenue NE. This is the 5th water storage tower in the system, is the tallest at over 200 feet, and holds million gallons of water. It increased the total water stored in elevated water tanks to 5.5 million gallons. The tank will slightly increase the water pressure for about 11,000 residents in the community. More importantly the new tower will supply emergency fire flows and provide more consistent water pressure during peak water demands.

Cutting Edge Technology: Taste, Odor and Maintaining Water Safety

The NUA teamed up with Carollo Engineering winning a \$200,000 grant from The Bureau of Reclamation to study cutting edge technology for the removal of chromium in drinking water. The project will test the effectiveness of a biological filter to remove chromium under varying circumstances such as temperature, time, concentration, and drought. This project began in 2016 and should be available for technical and peer review by the end of 2017.

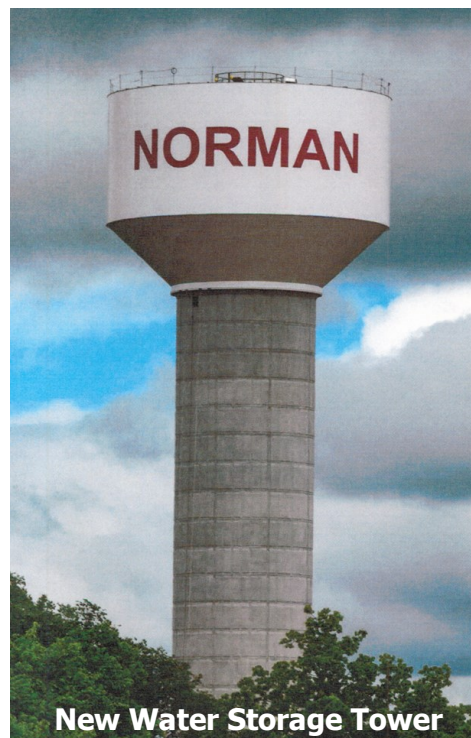
Developing Legislation

The Oklahoma State Legislature directed DEQ to form a committee and work on developing new water reuse rules. The NUA is one of only two municipalities on the committee working to draft regulations for treating, testing and using highly-treated effluent as an alternative and supplemental source of drought proof water.

Infrastructure Improvements

The NUA is taking steps to address the aging infrastructure of utilities, an issue in America that continues to be in the news. This past year, over 23,000 feet of large diameter (16 inches and larger) water lines were replaced in central Norman. In addition, our own Water Line Maintenance crews replaced over 9,000 feet of aging 6 inch and 8 inch water lines in different neighborhoods, and installed 20 new fire hydrants. We are actively working to ensure continued water service and fire protection to our community.

Sincerely,
Mayor Lynne Miller



New Water Storage Tower

Definitions & Abbreviations Used in the Water Quality Summary

EPA – US Environmental Protection Agency

MCL – Maximum Contaminant Level is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG – Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.

MRDL – Maximum Residual Disinfectant Level is the highest level of a disinfectant allowed in drinking water based on an annual average and does not apply to individual samples. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants. Compliance with the MRDL is calculated as a Running Annual Average (RAA).

MRDLG – Maximum Residual Disinfectant Level Goal is the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

RAA – Running Annual Average is the average of the last 12 months or last 4 quarters that the facility is in operation. Disinfectants and disinfectant by-products monitored in this way are Total Trihalomethanes, Haloacetic Acids, Bromate and Chloramines.

LRAA – Locational Running Annual Average is the average of the last 12 months or last 4 quarters for each identified monitoring location in the distribution system. This differs from past requirements, which determined compliance by calculating the RAA of samples from all monitoring locations across the distribution system. Total Trihalomethanes and Haloacetic Acids are monitored in this way.

AL – Action Level

TT – Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water.

NTU – Nephelometric Turbidity Units (a measure of clarity)

pCi/L – picocuries per liter (a measure of radioactivity)

ppm – parts per million or milligrams per liter (mg/L)

ppb – part per billion or micrograms per liter (mg/L)

CFU – Colony Forming Units

< – less than > – greater than

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also, come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring, or be the result of oil and gas production and mining activities.



Lake Thunderbird

<u>Parameter</u>	<u>Units</u>	<u>MCLG</u>	<u>MCL</u>	<u>Major Sources in Drinking Water</u>
Nitrate-Nitrite	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride, Total	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer
Barium, Total	ppb	2000	2000	Discharge from drilling waste; discharge from metal refineries; erosion of natural deposits
Selenium, Total	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Arsenic, Total	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Chromium, Total	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Lead	ppb	0	AL= 15	Corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	1.3	AL= 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Turbidity	NTU	n/a	TT= >0.3 NTU in not more than 5% of samples	Soil runoff
Total Organic Carbon (TOC)	ppm		TT= ratio must be greater or equal to 1.00 for compliance	Naturally occurring
Gross Alpha	pCi/L	15	15	Decay of natural and man-made deposits
Gross Beta	pCi/L	50	50	
Radium 226-228	pCi/L	5	5	
Total Trihalomethanes	ppb	0	80 (RAA)	By-product of drinking water chlorination
Haloacetic Acid	ppb	0	60 (RAA)	By-product of drinking water chlorination
Coliform Bacteria	CFU	0	presence of coliform bacteria in <5% of samples	Naturally present in the environment
<u>MRDL</u>				
Chloramine	ppm	none	4	Water additive used to control microbes

2016 Detectable Contaminants Table (Water Wells)

	Nitrite-Nitrate level (ppm)	Fluoride level (ppm)	Barium level (ppb)	Selenium level (ppb)	Arsenic level (ppb)	Chromium (ppb)	Adjusted Gross Alpha (pCi/L)	Uranium (ppb)
Well # 3A	0.57		222	4.4	1	39	12	3.8
sample date	3/1/2016		3/1/2016	3/1/2016	3/1/2016	3/1/2016	9/17/2015	9/17/2015
Well # 8		0.86	194	6.5	3.95	48	8.1	10.3
sample date		5/17/2016	5/17/2016	5/17/2016	*	5/17/2016	*	*
Well # 20	0.61		688	8	2.97	7.9	5.9	4.6
sample date	3/1/2016		3/1/2016	3/1/2016	*	3/1/2016	*	*
Well #31			194	5.8	2.48	41	6.8	10.5
sample date			10/29/2014	10/29/2014	*	10/29/2014	*	*
Well # 33	0.95	0.32	220		1.70	51	8.0	5.6
sample date	4/12/2016	11/20/2012	11/20/2012		*	11/20/2012	3/6/2014	3/6/2014
Well # 34	0.34	0.39	215	3.6		72	8.7	11
sample date	5/10/2016	10/14/2016	10/14/2016	10/14/2016		10/14/2016	3/6/2014	3/6/2014
Well # 38	0.36	0.33	279	2.9	1.8	50	7.0	6.7
sample date	5/10/2016	10/14/2016	10/14/2016	10/14/2016	4/10/2014	10/14/2016	6/17/2015	6/17/2015
Well # 39	1.04	0.76	217	19	6.3	84	11.2	8.8
sample date	1/12/2016	4/12/2016	4/12/2016	4/12/2016	*	4/12/2016	*	*
Well # 40	0.58	0.29	231		0.87	46	7.9	5.6
sample date	6/2/2016	11/20/2012	11/20/2012		2/5/2014	11/20/2012	1/15/2014	1/15/2014
Well # 41	0.38		192	2.5	3.3	49	5.8	4.4
sample date	6/2/2016		11/19/2014	11/19/2014	2/5/2014	11/19/2014	4/24/2014	4/24/2014
Well # 42			303	1.1		31	7.3	3.2
sample date			12/19/2015	12/19/2015		12/29/2015	4/24/2014	4/24/2014
Well # 43	0.84		388	2.1	0.8	8.8	3.5	1.8
sample date	6/2/2016		11/18/2014	11/18/2014	2/10/2014	11/18/2014	4/24/2014	4/24/2014
Well # 44	0.21		165	3.1		85	7.1	5.1
sample date	3/1/2016		3/1/2016	3/1/2016		3/1/2016	4/24/2014	4/24/2014
Well # 45	0.53		199	1.1		77	6.4	4.4
sample date	6/2/2016		12/30/2015	12/30/2015		12/30/2015	4/24/2014	4/24/2014

Source Water Assessment Plan (SWAP) - Qualitative Susceptibility Rating is Moderate

* indicates a composite of quarterly data

2016 Detectable Contaminants Table (Water Wells)

	Nitrite-Nitrate level (ppm)	Fluoride level (ppm)	Barium level (ppb)	Selenium level (ppb)	Arsenic level (ppb)	Chromium (ppb)	Adjusted Gross Alpha (pCi/L)	Uranium (ppb)
Well # 46	0.34		186	2.2	2.4	56	12	7.9
sample date	6/2/2016		12/29/2015	12/29/2015	12/29/2015	12/29/2015	*	*
Well # 47		0.5	398	1.1	1.6	9.7	6.8	1.7
sample date		4/12/2016	4/12/2016	4/12/2016	12/29/2015	4/12/2016	9/22/2016	9/22/2016
Well # 48			220	20	7.8	84	7	13.9
sample date			12/29/2015	12/29/2015	12/29/2015	12/29/2015	8/11/2016	8/11/2016
Well # 49		0.51	172	15	4.8	88	9	6.6
sample date		12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015	*	*
Well # 51	1.05		220	1.1	1.7	52	5.6	7.3
sample date	8/11/2016		4/7/2015	4/7/2015	2/4/2015	4/7/2015	*	*
Well # 55	0.37		190	3.4	5.2	33	6.6	4.9
sample date	9/22/2016		6/1/2015	6/1/2015	1/28/2015	8/16/2016	*	*
Well # 56			199	1.3	3.9	43	5.9	5.2
sample date			10/29/2014	10/29/2014	2/5/2014	10/29/2014	9/22/2016	9/22/2016
Well # 57	0.42	0.35	194	1.0	4.1	55	9.5	3
sample date	9/22/2016	10/17/2016	10/17/2016	10/17/2016	10/14/2016	10/17/2016	9/17/2015	9/17/2015
Well # 58	0.23		211	4.3	4.5	46	10.5	7.8
sample date	9/23/2016		6/1/2015	6/1/2015	1/21/2015	6/1/2015	*	*
Well # POE 2		0.43	245	21	3.8	66		9.0
sample date		10/14/2016	10/14/2016	10/14/2016	*	10/14/2016		3/6/2014
Well # POE3		0.7	77	3	0.49	3.6		
sample date		4/7/2015	4/7/2015	4/7/2015	6/2/2016	4/7/2015		
Well # POE04	1.44		208	18	2.7	45	5.4	5.1
sample date	1/19/2016		11/4/2015	11/4/2015	*	11/4/2015	*	*
Well # 58	0.25		211	4.3	4.5	46	8.7	7.8
sample date	7/14/2015		6/1/2015	6/1/2015	1/21/2015	6/1/2015	*	*
Well # 59	0.26		252	1.3		45	4.8	4.9
sample date	3/3/2015		4/29/2015	4/29/2015		5/25/2012	*	*
Well # 60		0.44	299	19	4.6	38	7.4	6.3
sample date		5/22/2012	5/25/2012	5/25/2012	8/15/2013	5/25/2012	*	*
Well # 60		0.44	299	19	4.6	38	7.4	6.3
sample date		5/22/2012	5/25/2012	5/25/2012	8/15/2013	5/25/2012	*	*
Well # POE04	0.38		208	18	4.96	45	10.1	10.5
sample date	10/20/2015		11/4/2015	11/4/2015	*	11/4/2015	*	*

* indicates a composite of quarterly data

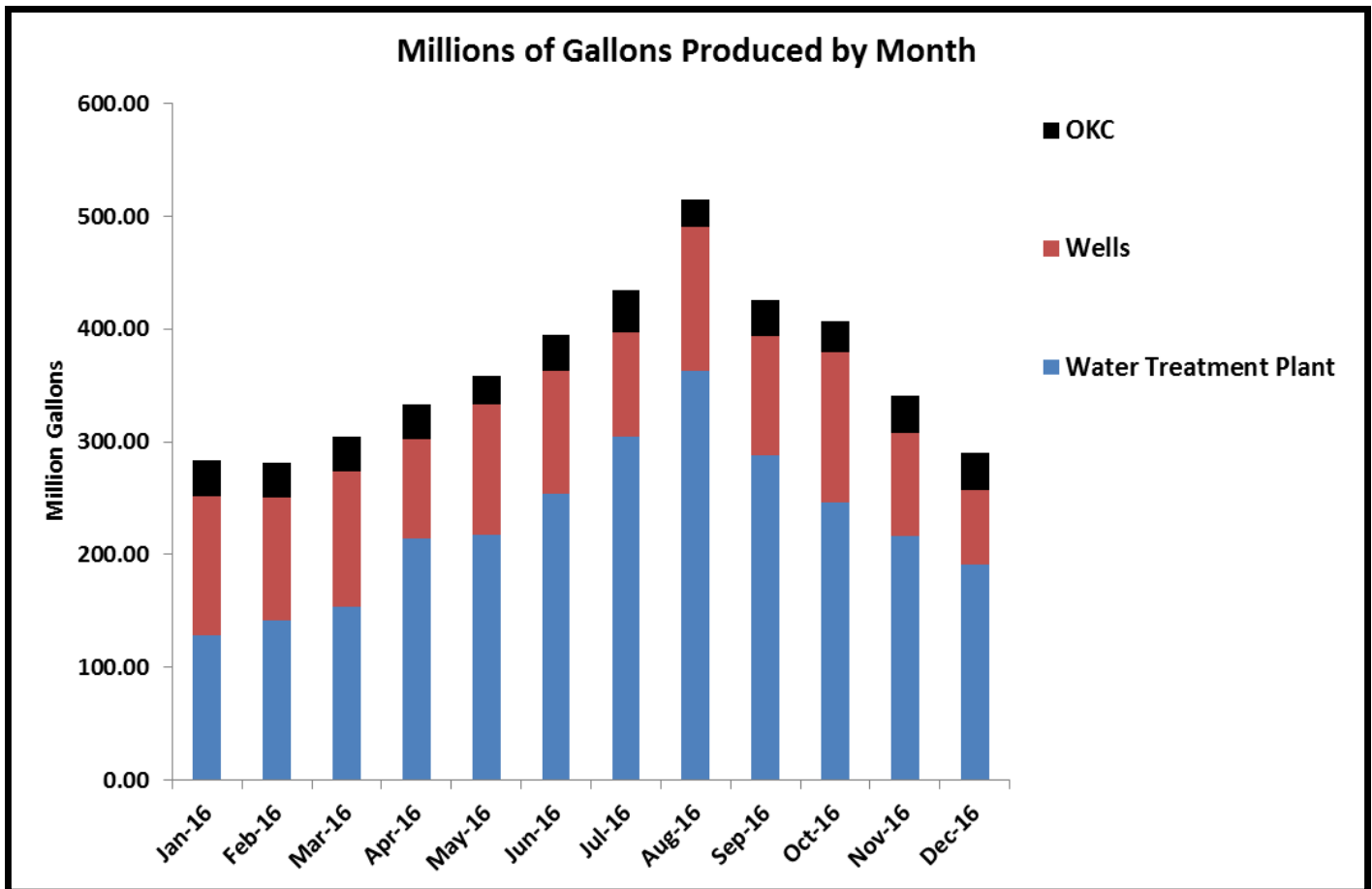
As of June 2016 Well 49 does not provide water to the City of Norman drinking water system.

Water Production- 2016

During 2016, lowest monthly water consumption for Norman was February with a total of 281 million gallons; the highest monthly water consumption was August at 515 million gallons. This 54.7% increase between February and August is the result from lifestyle changes associated with seasonal usage.

The peak daily water usage occurred on Aug 15, when 18.25 million gallons of water was consumed or about 172 gallons per person. Minimum daily water usage occurred on December 25, when 7.52 million gallons of water was consumed, or 71 gallons per person.

The Water Treatment Division purchases one million gallons of water each day from Oklahoma City through a contract signed in 2015 by the NUA. This purchase is necessary to meet Norman's annual water supply needs.



About Source Water

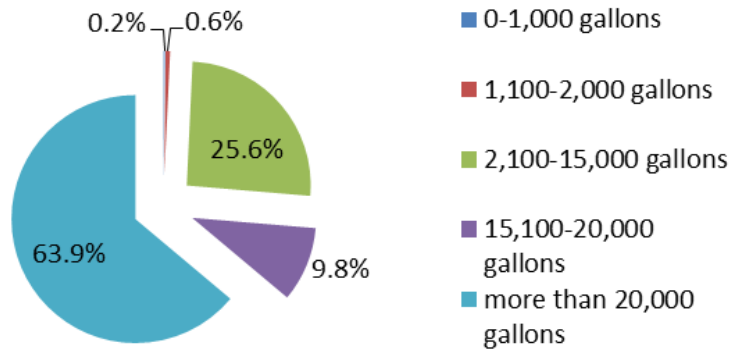
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Household Water Conservation Driven by Water Rates

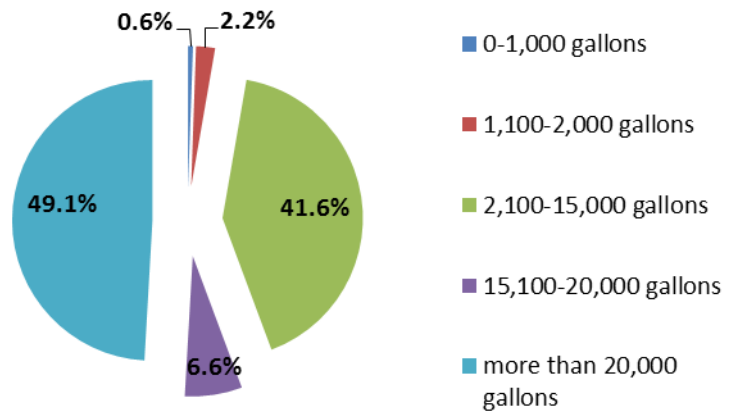
July 1998



In 1998 prior to the voter approval of our current tiered water rate structure the following division of household usage by all household customers was experienced in the month of July. 63.9% of all households used more than 20,000 gallons, while only 26.4% used less than 15,000 gallons.

In July 2016, following voter approval of our tiered water rate, the following usage pattern was experienced. In this chart it is noted that the percentage of household customers using greater than 15,000 gallons per month reduced by 18% and customers using less than 15,000 per month increased by 87%. This observation indicates that our water conserving rates are working with some customers of our system. Future year's water consumption patterns will hopefully show the continued success of our community efforts to conserve water. **Every Drop Counts!**

July 2016



A Note About Arsenic

Arsenic is a naturally occurring mineral present in the Garber-Wellington Aquifer. In Norman's case, its presence in our groundwater results from the erosion of natural deposits accumulated during the formation of the aquifer millions of years ago. Contamination by man is not to blame; only nature gets credit for its presence in our water.

The U.S. Environmental Protection Agency defines the maximum contaminant level (MCL) at 10 parts per billion (ppb) for arsenic. The City of Norman is in compliance with the 10 ppb MCL.

While your drinking water meets EPA's standard, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is known to cause cancer at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.

Water Quality Summary 2016 Wholesale Systems, Distribution System and Water Treatment Plant

DETECTED CONTAMINANTS	UNITS	IDEAL GOAL (EPA'S MCLG)	HIGHEST LEVEL ALLOWED (EPA'S MCL)	NORMAN WTP PWS ID 1020801	HEFNER WTP PWS ID 1020902	DRAPER WTP PWS ID 1020902B	OVERHOLSER WTP PWS ID 1020902C	UNIVERSITY of OKLAHOMA PWS ID 3001414	GRIFFIN MEMORIAL HOSPITAL PWS ID 3001404	TURTLE CREEK MHP PWS ID 3001409	COMPLIANCE	MAJOR SOURCES IN DRINKING WATER
Inorganic Compounds												
Fluoride ¹	ppm	4	4	Highest level - 2016	Average level detected in most recent testing - 2016						YES	Added during treatment for dental health or dissolved from natural deposits
				0.94	0.61	0.69	0.67					
Lead	ppb	0	AL = 15	2015 - Most recent systemwide distribution testing - results are the 90th Percentile							All Sites < AL	Corrosion of household plumbing; erosion of natural deposits
				0.63	<5.0			<5.0	<5.0	<5.0	YES	
Barium	ppm	2	2	Most recent testing 2015	Highest level most recent testing - 2013						YES	Discharge of Drilling Wastes; discharge from metal refineries; erosion of natural deposits
				0.059	0.052	0.057	0.032					
Copper	ppm	0	AL = 1.3	2015 - Most recent system wide distribution testing - 90th Percentile							All Sites < AL	Corrosion of household plumbing; erosion of natural deposits
				0.09	0.079			0.06	0.05	0.05	YES	
Arsenic	ppb	0	10	Most recent testing 2014	Range detected in most recent testing: 2013						YES	Erosion of natural deposits; runoff from orchards; runoff from electronics and glass production wastes
				<2	<2	<2	<2					
Nitrate-Nitrite ²	ppm	10	10	Highest level, most recent testing - 2016							YES	Runoff from fertilizer; leaching from septic tanks, sewage or erosion of natural deposits
				0.415	0.366	0.109	0.231					
Radiological												
				Most recent testing 2016	Range detected in most recent testing: 2012						YES	Decay of natural and man-made deposits
Gross Alpha	pCi/L	0	15	<0.114	<2.229	<0.4744	<2.373					
Gross Beta	pCi/L	0	50	1.79	6.784	2.611	6.824					
Radium 226 + 228	pCi/L	0	5	<0.265	<0.545	<0.495	0.980					
Uranium	ppb	0	30	<1.0	<1	<1	<1					

Water Quality Summary 2016 Wholesale Systems, Distribution System and Water Treatment Plant

DETECTED CONTAMINANTS	UNITS	IDEAL GOAL (EPA'S MCLG)	HIGHEST LEVEL ALLOWED (EPA'S MCL)	NORMAN WTP PWS ID 1020801	HEFNER WTP PWS ID 1020902	DRAPER WTP PWS ID 1020902B	OVERHOLSER WTP PWS ID 1020902C	UNIVERSITY of OKLAHOMA PWS ID 3001414	GRIFFIN MEMORIAL HOSPITAL PWS ID 3001404	TURTLE CREEK MHP PWS ID 3001409	COMPLIANCE	MAJOR SOURCES IN DRINKING WATER
Disinfection By-Products Stage 2 Rule Monitoring ³												
Total Trihalomethanes ⁴	ppb	0	80 (LRAA)	Most recent systemwide distribution testing							YES	By-product of drinking water disinfection
				Highest Locational Running Annual Average (LRAA)								
				15.46	71.5			14.85	3.9	13.8		
				Range detected								
				3.8-23.3		4.17-78.01		<4-21.3	3.9	13.8		
Haloacetic Acids ⁴	ppb	0	60 (LRAA)	Most recent systemwide distribution testing 2014/2015							YES	By-product of drinking water disinfection
				Highest Locational Running Annual Average (LRAA)								
				10.35	43.15			14.05	8.6	16.6		
				Range detected								
				<5.0-11.0	1.67-48.10			<6.0-16.8	8.6	16.6		
Bromate ⁵	ppb	0	10 (RAA)		Highest quarterly average (RAA) - 2.89						YES	By-product of disinfection by ozone Only Hefner Plant uses Ozone
					Range detected - <8.75 - 40.5							

Water Quality Summary 2016 Wholesale Systems, Distribution System and Water Treatment Plant

DETECTED CONTAMINANTS	UNITS	IDEAL GOAL (EPA'S MCLG)	HIGHEST LEVEL ALLOWED (EPA'S MCL)	NORMAN WTP PWS ID 1020801	HEFNER WTP PWS ID 1020902	DRAPER WTP PWS ID 1020902B	OVERHOLSER WTP PWS ID 1020902C	UNIVERSITY of OKLAHOMA PWS ID 3001414	GRIFFIN MEMORIAL HOSPITAL PWS ID 3001404	TURTLE CREEK MHP PWS ID 3001409	COMPLIANCE	MAJOR SOURCES IN DRINKING WATER
Precursor Removal												
Total Organic Carbon ⁶ (TOC)			TT = Ratio must be greater than or equal to 1.00 for compliance	Average of monthly ratios							YES	Naturally occurring
				1.57	1.89	0.406	1.62					
				Monthly Ratio = (% TOC removed) divided by (% TOC removal required)								
Disinfection Residual												
Chloramines as Chlorine ⁷	ppm	NA	MRDL	Average readings							YES	Water additive used to control microbes
			4.0	2.3	3.66	3.37	3.45	1.6	2.7	0.1		
			Range detected	0.1-4.4	2.10 - 5.00	1.20 - 3.80	1.07 - 4.40	0.1-2.9	1.8-3.8	0.05-0.5		
Microbiological												
Coliform Bacteria	CFUs % positive	0	Presence of Coliform bacteria in <5% of samples	2016 - 0.62% total coliform positive samples	Highest monthly % 2016 - October, 2 positive in 262 samples(0.763 %)					2016 - 0% total coliform positive samples	YES	Naturally present in the environment - No E. Coli positive samples in 2016.
Clarity												
Turbidity	NTU % > 0.3	NA	TT = > 0.3 NTU in not more than 5% of samples	Monthly lowest % < 0.3 NTU							YES	Lime and/or calcium carbonate particles from softening efforts; soil runoff
				99.40%	100.0%	99.5%	98.9%					
				Highest single reading								
				0.8	0.25	0.74	1.06					
Long Term 2 Enhanced Surface Water Treatment Rule												
Cryptosporidium ⁸	cysts/L	0	NA	Source Water tested in the lowest category	All source waters tested at less than 0.075 cysts/L (lowest risk category)						YES	Storm runoff, agricultural runoff and leaking sewage systems

Did you know?

The City of Norman is has one of the most successful recycling programs in the Nation with a state of the art compost facility! All of the accepted yard waste material is redistributed to the public in the form of compost.



Recycling Center Locations:

- Hollywood Shopping Center - McGee and Lindsey
- Hobby Lobby – 24th Ave NW and Main St on the west side of Hobby Lobby and Browns Shoes
- Cleveland County Fairgrounds – 1499 N Porter

You MAY use phosphorus containing fertilizer if:

- You are applying fertilizer in the first six months of turf establishment from seed or sod.
- A soil test by a certified lab shows a phosphorus level of 10 parts per million (ppm) or less, and you apply at the recommended rate.
- It is naturally occurring phosphorus in a natural or organic fertilizer

You should NOT:

- Apply any fertilizer when runoff producing rainfall is occurring or predicted or when soils are saturated and fertilizer may wash or move off-site.
- Apply any fertilizer to impervious surfaces such as streets, driveways or sidewalks. If this happens, sweep or blow the fertilizer back onto the intended surface or collect and dispose of properly.
- Store fertilizer uncontained on impervious surfaces.
- Apply fertilizer within 25 feet of any wetland, watercourse or storm water retention/detention basin.
- Blow, sweep, dump, or place leaves, grass clippings or any yard waste in any street, storm drain or waterway.

Pollution Prevention!

- Use phosphate-free laundry soap
- Don't pour oil or other hazardous substances down the drain or onto the ground
- Give away unused materials
- Use safe substances for cleaning; vinegar is great for cleaning glass
- Dispose of products safely
- Plant grass and trees on loose soil to help keep the soil from washing away

2016 Water Quality Data

Parameter	City of Norman Water Treatment Plant Average	Well Water Average	units
Total Hardness	66	99	mg/L as Calcium Carbonate
Calcium Hardness	33	50	mg/L as Calcium Carbonate
Magnesium Hardness	32	no data	mg/L as Calcium Carbonate
Total Alkalinity	49	224	mg/L as Calcium Carbonate
Chloride	22	7.9	mg/L
pH	9.0	8.3	pH units
Fluoride	0.72	0.33	mg/L
Chloramine	3.1	no data	mg/L
Turbidity	0.09	no data	NTU

Advisory Notice from EPA

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals and from human activity.

Information Regarding Lead in Drinking Water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing installed before 1973. The Norman Utilities Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead

Footnotes from the City of Oklahoma City

Monitoring Frequency Note: The state has set forth enforceable regulations on how often contaminants must be monitored and tested. Some of our data, though representative, is more than one year old.

ODEQ monitors and tests the following Inorganic Compounds and Radiological Compounds for Oklahoma City Utilities: Barium, Arsenic, Gross Alpha, Gross Beta, Radium 226 + 228 and Uranium.

Required Sampling Frequency:

Every 9 years - Fluoride, Barium and Arsenic

Every 6 years – Radionuclides

Every 3 years – Lead and Copper

1. Fluoride: Monitored every 12 hours at each WTP. The highest single reading for 2016 at each plant was below the MCL and considered a safe level.

Draper– Highest single reading = 0.82 ppm. Average fluoride concentration for 2016 = 0.69 ppm

Overholser– Highest single reading = 1.07 ppm. Average fluoride concentration for 2016 = 0.67 ppm

Hefner– Highest single reading = 0.94 ppm. Average fluoride concentration for 2016 = 0.61 ppm

2. Nitrate-Nitrite: Measured as the sum of Nitrate-N and Nitrite-N.

3. Disinfection By-Products Stage 2 Rule Monitoring: U.S. water utilities are required to continuously improve the quality of water delivered to customers. The Federal Environmental Protection Agency and the Oklahoma Department of Environmental Quality enforce drinking water laws and develop long-range improvement activities. In 2009, Oklahoma City collected information on how THMs and HAAs change in the water system and is working with EPA and DEQ to decrease the numbers.

4. Total Trihalomethanes and Haloacetic Acids: The MCL is based on the RAA; therefore the MCL does not apply to individual samples that are allowed to be higher than the MCL.

5. Bromate: The MCL is based on the RAA; therefore the MCL does not apply to individual samples that are allowed to be higher than the MCL. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

6. Total Organic Carbon: Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include Trihalomethanes (THMs) and Haloacetic Acids (HAAs). Drinking water containing these by-products in excess of the MCL (Maximum Contaminant Level) may lead to adverse health effects. TOC compliance is based on the percent TOC removed, not the total amount present. The starting TOC at the Draper Treatment facility is low; therefore the potential for formation of THMs and HAAs due to TOC is low. The THM and HAA values for the Draper Treatment facility are below the LRAA MCL, which is currently considered a safe level for these disinfection by-products. Draper Treatment facility uses an alternative method (SUVA analysis) for meeting TOC removal criteria.

7. Chlorine: Compliance with the 4.0 mg/L MRDL is based upon an annual average; therefore, the MRDL does not apply to individual samples that are allowed to be higher than the MRDL.

8. Turbidity: Turbidity is a measure of the cloudiness or clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

PUBLIC NOTICE: On July 26, 2016 at the Overholser Treatment Plant, an open window allowed rain water to compromise the turbidity meter resulting in a false high reading. At no time did the rain water mix with drinking water due to this event. Window was closed and locked and meter was recalibrated and retested to assure accuracy and to correct the problem. ODEQ was notified of high turbidity on the same day of occurrence. Bacteriological samples were collected in the area to ensure the high reading did not compromise the water quality. All samples were negative.

9. Cryptosporidium: Cryptosporidium is a microbial pathogen found in surface water throughout the United States.

All source water samples collected for the City of Oklahoma City during 2016 were non-detect for this pathogen.

Cryptosporidium is part of the Long Term 2 Enhanced Surface Water Treatment Rule and testing was required for a consecutive 24 months. Our testing will be completed in 2017. Source water averages are <0.075 cysts/L, which are considered low risk category.

10. UCMR3: EPA uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants, largely based on the Contaminant Candidate List. The SDWA Amendments of 1996 provide for:

Monitoring no more than 30 contaminants every five years

Monitoring only a representative sample of public water systems serving less than 10,000 people

Storing analytical results in a National Contaminant Occurrence Database (NCOD).

UCMR3 is the third round of monitoring under the UCM Rule.

Unregulated Contaminants Monitoring Rule 3—Detected Analytes

Detected Contaminant	Units	IDEAL GOAL (EPA's MCLG)	HIGHEST LEVEL ALLOWED (EPA's MCL)	Average		Range		Average and Range	MAJOR SOURCES IN DRINKING WATER
				Norman	Oklahoma City	Norman	Oklahoma City	University of Oklahoma	
Chlorate	ppb	NA	NA	234	36.4	<20-970	< 20.0 - 36.4	<20	By-product of drinking water disinfection, making of dyes, explosives, matches, printing fabrics, herbicides, antiseptics, toothpastes and in paper pulp processing.
Hexavalent Chromium	ppb	NA	NA	41	0.141	0.08-97	< 0.030 - 0.391	2.8	Naturally occurring. By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation.
Total Chromium	ppb	100	100	41	0.428	0.31-89	< 0.200 - 0.471	2.6	Naturally occurring. By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation.
Molybdenum	ppb	NA	NA	1.4	2.76	1.0-2.6	< 1.00 - 3.24	1.38	Naturally occurring. By-product of making steel and other alloys, lubricants, dyes and pigments, fertilizers.
Strontium	ppb	NA	NA	442	295	89-820	42.9 - 763	145	Naturally occurring. By-product of making electronics and fireworks.
Vanadium	ppb	NA	NA	28	2.78	2.8-140	< 0.200 - 7.50	10.1	Naturally occurring. By-product of making steel alloys, chemical manufacturing, ceramics and batteries.

About Source Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

For More Information

The Norman Utilities Authority members are the elected Mayor and City Council members. Their meetings are held at the same time as City Council meetings and are open to the Public. Meeting schedule: Second and fourth Tuesday of each month at City Hall, beginning at 6:30pm.

For Questions Regarding Water Quality Phone (405) 321-2182

Geri Wellborn	Water Treatment Plant Manager	E-mail: geri.wellborn@normanok.gov
Scott Aynes	Water Treatment Plant Supervisor	E-mail: scott.aynes@normanok.gov
Rachel Croft	Laboratory Manager	E-mail: rachel.croft@normanok.gov

For Questions Regarding City Services

The Action Center	Phone: (405) 366-5396 or E-mail: action.center@normanok.gov
Customer Service/Billing	Phone (405) 366-5320
Water/Sewer Emergency	Phone (405) 329-0703 (Daytime) or (405) 321-1600 (After hours)

Citizens can go to www.greennorman.org to get more conservation information



Vernon Campbell Water Treatment Plant